THE GENESEE FARMER.

Vol. IV. ROCHESTER, AUGUST 30, 1834. No. 35.

Published by Luther Tucker.

TERMS.—The Farmer is published every Saturday, making an annual volume of 416 pages, to which is added a Title-page and Index, at the low price of $2,50, or $2.00 if payment is made at the time of subscribing.

☞ All subscribers must commence with the volume, Jan. 1, or with the half volume, July 1. No subscription taken for less than six months.

☞ New subscribers can be supplied with the first, second and third volumes.

THE GENESEE FARMER.

SATURDAY, AUGUST 30, 1834.

On the Grub Worm or Cut WORM.

I write in compliance with the request of the Luzerne county "Farmer" at page 250. The grub or cut worm has never been so numerous in any neighborhood where I have resided, as to endanger our crops of corn; so that I know but little of them in an agricultural point of view; but with the manners of those which ravage our gardens in the spring and early part of summer, I am well acquainted. There appear to be several different kinds of cut worms however; and it is not improbable that the *army worm* of the western States, belongs to the same family or genus. *Thomas Say* our celebrated entomologist, in a letter to the late Judge *Peters*, written in the autumn of 1817, says, "Early in the summer, I received from a highly respectable source, which except in matters of natural history (in which it is often necessary to doubt the evidence of our senses,) I should have relied on without hesitation, a *Tipula* or Crane fly as the parent of these grubs, with every assurance that there could not possibly be a mistake, as the worms had been selected, fed, and carefully observed, during their progress to the PERFECT STATE. However absurd this appeared, it induced me to pay some attention to the thing, *the result of which was a perfect conviction that the parents were* TWO, THREE, *or* MORE *species of* MOTHS, as was at first supposed. Mr. *Samuel R. Wetherill* of Burlington presented me since with TWO different species of the genus *Noctua* which he obtained from these grubs; and finally I have the pleasure to return my thanks to Mr. *Thomas R. Peters* for A THIRD species."

"The Philadelphia Society for promoting Agriculture" in that year requested through the medium of the newspapers, information respecting the ravages of the cut worm on Indian corn; and various communications of this kind were published in the 4th volume of its "Memoirs." It is a rare book however; and by placing some extracts before the readers of the Genesee Farmer, I hope to perform a service that will at once prove useful and acceptable.

"S. Preston, Esq. mentions a fact of his own knowledge, having repeatedly practiced it, that *firing a musket near the ground, over garden beds infested by the black grub*, which annoy and cut off cabbage and other plants, *will kill them* by the concussion in the air, or some cause producing the effect." Page 189.

"The grub, or cut worm as it is generally called, has done injury to an alarming extent. Some fields of corn are entirely destroyed, and require replanting. Some farmers have made use of precautionary means, by rolling the seed corn in ashes. It is supposed that the ashes, adhering to the grain, render it unpalatable to the cut worm. *These means have actually answered the expected purpose*, and have facilitated the vegetation of the plant. There is another remedy which has also *proved destructive to the cut worm*, and a preservative to the tender plant of corn, viz. when the plant is just piercing the soil, take a tea spoonful of slacked lime (or even more will do no harm) and scatter it on the plant. [Or] roll the seed corn in slacked lime, it will produce the same result."

"I had a field of corn ploughed last fall late in the season, it having been a clover field,—with a view of preventing the grub or cut worm from destroying the plant this spring; but I find that the worm is even worse in this field thus prepared, than it is in fields that were broke up early in the spring for corn." From *J. Gardner* of York county. Page 195–6.

On the last paragraph Judge *Peters* makes the following comments: "It will be found however, that *the balance of facts is favorable to the practice of fall ploughing*, well executed; and especially if *lime* be applied and well harrowed in. Some who plough deep and well in the spring, find lime to repel or destroy the grub in a great degree. But the fact of fall ploughing being a remedy or preventive, is all essential. It may not *always* succeed; nor does any other agricultural operation. The cut worms may be as they have been, overwhelmingly destructive and numerous, so as occasionally to baffle every human effort; but there is no justification for neglecting any thing which has been successful in multitudes of instances; or for practicing bad tillage by what is called *listing*, or throwing up a few furrows of the sod and leaving the rest of the field unploughed. This may be sometimes apparently warranted by the event as to the grub; but to meet one *occasional* misfortune, we should not establish a reprehensible habit of permanent hostility to the foundation of all good husbandry." Page 196–7.

"A farmer is now with me who says he has planted his corn the *third* time this season, and finished yesterday only,—the grub having nearly destroyed the whole that was in seven acres He also relates that his neighbor's field of about twelve acres, *separated only by a fence*, is quite good; and except about ten hills, he has not been obliged to replant at all.

"Both fields were ploughed last season, and cultivated alike in all respects; but his neighbor's field being overgrown with wood grass, it was *burned* off last fall before ploughing. He knows no other method of accounting for the different state of the corn in the two fields; and I mention this fact as it may throw some light upon a matter, very interesting not only to our agriculturists, but to all the inhabitants of these states." From *W. Poole* of Brandywine. Page 198.

"Late in the month of March I ploughed a twelve acre field all up and harrowed it well.—The cut worm destroyed the whole of the corn. I ploughed about eight acres, by backing two furrows together; and was careful that none of the furrows fell back, to give the worm any chance of getting up the ridge. In order that there should be no marks made to enable the worms to get to the hills of corn, I got a light cart and put a man in it to drive the horse and a boy to move the poles, and that made a sufficient mark to plant my corn: *the cut worms have not destroyed one hill in a thousand.* There are great quantities of them which feed on the grass; and one would suppose, to see where they have eaten the grass, that sheep had been in. Spots are eaten entirely bare. They have suffered very much by getting into the furrows, which are so deep that the grubs have not been able to get out."

"There is one way that will in my opinion completely destroy the worm: In the spring as soon as it makes its appearance, *burn your ground* in any way you can:—where there is no furzy grass, it would be worth while to have straw or leaves. Be careful not to burn to soon in the spring before the worm makes its appearance." From *J. Gibbons* of Delaware county. Page 199–200.

"W. Graham, Esq. of Chester, has a corn field uninjured by the cut worms which are in great plenty in his field, owing to an accidental growth of buckwheat, which he suffers to remain till the grub has passed away. The worms are found among the buckwheat, and in tufts of sorrel, in great numbers while the corn hills are entirely free from them." From Judge *Peters.* Page 200.

"The ravages of the cut worm in this neighborhood, have exceeded all former experience. I have been trying to discover some means by which the corn may be protected, and the worm destroyed. I propose to take a pair of narrow cart or chair wheels, securing on the outside of the rim or tire, two or four projections somewhat similar to the tooth or cog of a mill wheel; and so formed as to impress in the earth a hole four inches in depth, and of an elliptical form, which will be made by tapering the tooth from the four sides to the center.

"The wheels thus prepared are to be taken through the field by a horse, immediately after planting, in directions alternately opposite, that in going and returning they will track and make the holes on each side of two rows of corn. Should the number of holes made in going and returning one way over the field, be insufficient, it may be proper to cross at right angles to the first course. Thus will the wheel tracks and holes be so numerous as to render it very difficult if not impossible for the worm to arrive at the corn. It may appear strange that *these vermin can crawl up the sides of a clean tin cup, and are yet unable to raise themselves up the inclined sides of a very shallow trench*, if the ground be light and crumbling. These facts I have ascertained by experiments.—☞ I can state that I have had the plan in operation, and find IT ANSWERS COMPLETELY." From *P. Shee* of Delaware county. Page 202–3.

"No previous preparation of maize will prevent the cut worm. *Holes made near the plants*

have destroyed inconceivable multitudes; and so have perpendicular sided narrow trenches between the corn field and the grass or clover land. *Amos Harvey*, a respectable farmer on Brandywine, speaks of *many bushels* being taken in this manner by a person in his neighborhood." From *Henry Cox* of Chester county. Page 205–6.

"I recommend digging holes about ten inches square in some of the furrows, say eight or ten in a furrow; and if the worms are very numerous, in every eighth or tenth furrow. *I have known one hundred worms caught in many holes for a number of nights in succession.* As the worms don't begin to travel until about the 10th of May, I would incline to plant about the 6th, and immediately make a hole in each hill with an instrument similar to a surveyor's staff with an iron socket on it. By making a hole about three inches deep, at the top of the hill, as near the corn as may be, *I have caught from five to fifteen in each hole.* They cannot get out. After the corn came up I sent a boy over the field every morning; if he found a stalk cut, he pulled out the worm and killed him.

"Although they began to go out of a grass field into my corn field, I stopped them by ploughing a deep furrow, and turning it towards the grass field, digging a number of square holes in it: *the furrow ought to be kept square on the side next to the corn.* My neighbor, *Jesse Pyle*, had a lot of clover which the worms totally destroyed, and were moving from thence to his wheat field. He ploughed a furrow along each side of the field, and dug holes to the amount of about fifty in each furrow of about ten inches square: In one night many of these holes were filled from two to three inches deep with worms. It is allowed by many who saw them at different times, that there were several bushels caught in one week in these holes. The worms were very large. From *J. M'Fadgen* of Chester county. Page 221–2.

"Some of my neighbors have derived benefit by making deep holes with a pointed stick near the corn plants, in which one neighbor trapped an inconceivable number of grubs."

"In an agricultural society in my neighborhood, it is a practice for the members respectively, to state such *facts* as have come to their knowledge, on their own and other farms,—they being intelligent practical farmers. At a late meeting which I attended, facts *pro* and *con* on the subject of *fall ploughing*, to prevent injuries from grubs, and for other valuable purposes, were candidly stated. In some instances fall ploughing had not been successful to the extent usually experienced; but *in none had it entirely failed.* The balance of facts were completely favorable."

"Several instances of *listing* or throwing furrows together, and leaving balks for the grubs to feed on, were stated. This slovenly practice had succeeded in some instances, but in others it had entirely failed. One member had been in the practice (not approved) of planting Indian corn in a field wherein corn had been the preceding. He said *the grub never annoyed him.*" From Judge *Peters.* Page 232–3.

A READER.

☞ We thank our friend at Richmond, (Va.) for his friendly suggestions, and shall endeavor to profit by them.

Summer Flowers.

(*In a letter of the 16th instant.*)

The Chinese Trumpet flower (*Bignonia grandiflora*) is magnificent. I have no shrub at this season that will bear a comparison. Its large flowers in large panicles, terminating slender branches several feet in length [illegible]are gracefully curved and often waving in the breeze, make a singular and beautiful display. It is doubtful if it would flourish in a cooler climate than ours; but as the stems increase in diameter, it becomes hardier; and I have no doubt of its doing well wherever our native Trumpet flower will succeed.

The latter (*B. radicans*) is also a fine shrub, climbing up any support by means of its radicles or fibrous roots which protrude from the stems. These proceed from each joint in two clusters or fascicles; and it is curious to observe with what force this plant is pressed against the support till the radicles have fastened. This kind increases by suckers much more freely than the former species; but in this climate, I believe neither of them produce mature seed.

In my letters of last year, I noticed a white *Hibiscus* with a red eye. The purity of its colors and the large size of its flowers, render it very ornamental. A black colored *Hibiscus moscheutos* with a fine red eye, is also very conspicuous. The garden indeed at this season is much indebted to this genus for its splendors.

I have a hardy rose (*Rosa marmorea ?*) which is called "monthly" or flowering *through* every month of the temperate season. At this time it is very beautiful, having lately produced some new clusters. So far I have found it rather difficult to increase,—a circumstance decidedly in its favor, as many fine roses become exceedingly troublesome in gardens in consequence of their numerous suckers.

Last year on a spot where I had sowed some exotic flower seeds, a climbing plant of very delicate foliage came up, which proved to be *Maurandya Barclayana* described at page 110, Gen. Far Vol. 3. It came from a seed accidentally dropped. Late in the fall, the plant was taken up and potted, but it did not grow though it matured a few seeds. It may be treated as an *annual*, starting it in a hot bed early in the spring, and then planting it out in the open border. It is an elegant plant.

EDUCATION.—The circular, which will be found in this paper, of GILBERT MORGAN, the erudite Principal of the Rochester Seminary, addressed to the Trustees and Teachers of Common Schools of this county, merits the attention of all interested in the cause of education. The want of system, as well as other necessary qualifications, on the part of instructors in our common schools, has hitherto greatly retarded the progress of education; and there is, perhaps, as much room for improvement in the mode of communicating instruction, as there is in the operations of agriculture or the success of any art in which are blended the public interests. Our primary schools should be regarded as objects of deep solicitude. Every effort, or enterprize, which has a tendeney to improve their condition, should meet with a prompt and liberal encouragement from the public. Mr. Morgan, from his qualifications and long experience as an instructor, is eminently well calculated to fit and prepare teachers for common schools, and with great cheerfulness we commend his enterprize to the consideration and reward of an enlightened community.

For the Genesee Farmer.

Culture of Cucumbers, &c.

It was not until a few days past that I received the 18th No. of the Genesee Farmer, in which there is a very interesting communication from D. T. on the culture of melons. I design now only to say a few words respecting the advantages of using straw in trenches according to the recommendation of Judge Buel—a suggestion with which I was equally pleased with D. T.—and these simply in reference to the raising of cucumbers. My object however is to draw the conclusion that similar results may be attained by a like preparation for any other vines belonging to the same natural family.

Cucumbers are very difficult to grow in our gardens to any extent, in this part of the country. As soon as the vines arrive at a bearing state, and produce a scanty supply, they begin to sink under the effort and speedily become exhausted. It is only in low moist places that we can raise them plentifully.

Early in the spring I had a small piece of ground prepared in my garden, by digging a trench about twelve inches wide and as many deep; and not more than thirty feet in length—in the bottom of which fresh straw was laid and made compact to the depths of two or three inches. The earth was then replaced, raising it high enough to form a gentle ridge. Thirteen vines survived the injuries of the frost and insects, and the product of these was indeed extraordinary. I can safely say that we gathered *several bushels* of cucumbers from them. They began to bear early, continued to grow luxuriantly for a length of time; and have at last only given way beneath the intense fervor of the dog days.

My object as I have stated, in detailing the successful result of this trial, is to show that the same preparation will doubtless be well adapted to the growth of melons. The quality of the melons will probably be also rendered more delicious than by the free use of manure—a practice which however it may increase the number, must always materially impair the excellence of a fruit of such delicate and exquisite flavor.

In making these remarks, it is far from my intention to detract from the merits of the other modes recommended by D. T. *They* are at least highly valuable, inasmuch as they will insure an abundant supply of melons at an earlier period of the season. The mode I have detailed may be a useful auxiliary in contributing to a succession.

T. S. P.

Beaverdam, Va., 8 mo. 20th.

For the Genesee Farmer.

Apples, half Sweet and half SOUR.

MR. TUCKER—Having seen in the Farmer of August 9th, an article on the subject of apples half sweet and half sour, signed V., which goes to discredit the existence of such a variety as well as the process of producing it, I am induced to offer what I know on the subject, trusting it will not be unacceptable to the readers of your useful paper.

It is more than 30 years ago, when I resided in Dutchess County, town of Washington, I was most credibly informed that apples, half sweet and half sour, were growing on a tree in the orchard of uncle Joseph Haight, an aged and respectable member of the society of Friends. To this story I gave entire credit, and related it as a fact to an uncle of mine in Connecticut, Fairfield county, town of West Greenwich, when on a visit. My uncle related the story in a mixed company, one of which was the Rev. Dr. Lewis of that place, who only replied with an air of significance, "*I wish you would produce the fruit.*" It was evidently regarded as an idle tale. Stung with mortification, he sent me a message in the ensuing fall, to send a specimen, to prove the correctness of my statement. As yet I had never seen them, and felt some anxiety on my own account. The messenger was to be the bearer, and without loss of time I went to the tree, filled my pockets and returned much relieved—the result of which was a perfect satisfaction of all parties concerned. I soon after ingrafted several young trees with scions from that tree, and I doubt not but the fruit is generally known in the place. To my inquiries of the venerable Joseph Haight, he informed me that he procured this variety from Long Island, and ingrafted it with his own hand—that of its origin he knew nothing, and could not hazard a conjecture—that the fruit varied much in various years, some times the sweet and at other times the sour would greatly predominate, and when they were most equally divided many on the tree were wholly sweet, and wholly sour. The sour sided resemble in color and taste, the Rhode-Island Greening, and the sweet, that of the Tallman Sweeting. I will further add that I have one of the apples now before me, from a young tree of my own, and although the green side is a sharp acid, the yellow side cannot be distinguished from the Tallman Sweeting, both being in a green state.

My tree, however, will never bear again, as it was pealed by sheep last spring and the present fruit and leaves are supported by the inner sap vessels. The tree in Dutchess, must now, if living, be from 50 to 60 years old, having the appearance, when I saw it, of 25 years growth. Its fruit had no ribs as described by V. but the partition line was nicely drawn as with a pencil, and much like the lines which are always seen on the Tallman Sweeting. Whether this fruit is a production of Nature or of art I can give no opinion. W.

Lansingburgh, Aug. 22, 1834.

☞ One of our subscribers wishes to know where one or more of the China breed of hogs can be procured. If any of our readers can give the information, they will please communicate it for publication.

From the Southern Planter.

Profitable Mode of Fattening
CATTLE AND HOGS.

Having for some years turned my attention to the most economical and profitable mode of fattening cattle and especially hogs, I have found that preparing their food by the process of boiling, is unquestionably the greatest improvement that has yet been discovered,—a slight fermentation following, previously to feeding it away, as certainly adds to the capacity of food for affording nutrition. But I have also farther fully ascertained that the nutritive qualities of *many* species of food can *only* be obtained by boiling, and in many others is only fully developed, or prepared for the action of the stomach by that process.

The *Irish Potatoe* furnishes a case in point of the first kind, and the *apple* of the last. It is extremely rare that you will find a hog that will eat a *raw* Irish potatoe, but put it through a *culinary process* and it is as rare to find one that will refuse them.

Boil the *apples*, let them get cold and feed them to hogs, and you double their capacity for producing flesh.

But sir, the result of fairly conducted experiment has equally convinced me that the *mixing* of different kinds of food, adds prodigiously to the capacity of the different materials for affording nutrition, from the *effect* of combination. The increase of the *quantity* of food, as well as the addition to its nutritive quality, by the simple absorption of water, in the act of boiling, is familiar to all well-informed persons. But I am assured that the *combination* of different materials produces a *greater mass* of nutritive matter than the whole could separately yield; and that to find out the art of *mixing* food, along with the best mode of *preparing* it for the action of the stomach, is the great art of feeding economically, and, I believe, to secure animal flesh, health and vigor.

The well-known effect of boiling *cotton seed* and *turneps*, and feeding them together, to fatten beef cattle, exhibits a conclusive proof of the last position, I think—no preparation is known to fatten more rapidly: the late improved mode of keeping up in flesh, working horses in England, by the admixture of food, may be cited as a corroborating proof in point. It is now I think, rendered certain that the combination of two articles of food, produces a new nutritive matter, more effectual than either could separately, or, than could be produced from the nutritive matter contained in each, fed separately. Boil *Irish potatoes*, *pumpkins*, and *apples*; combine them by mashing together, and add a little *salt* and it will be found a most nutritive food for hogs, producing flesh rapidly. Now a hog on *Irish potatoes* raw would starve to death, and do little better confined to *pumpkins*; on *raw apples* he would live tolerably—on the three *boiled* and combined he *fattens kindly* and *rapidly*.

The result with me has become an anxious desire to ascertain the simplest, and most economical mode of steam boiling food on a large scale, say pumpkins, potatoes, &c Some of your readers may have seen or be in possession of some plan, not generally known, and valuable.

I have no hesitation in saying that the individual whose talents would devise some plan which would come within the reach of every description of planters, uniting economy in the expenditure of capital, with despatch, would confer a solid benefit on the country.

Underground Turnep.

The seed of this turnep, (says the Baltimore Farmer,) has been sent us for sale by a judicious and careful agriculturist of Maryland, who describes it as follows. We have no other knowledge of this article.

"The underground turnep, the seed of which is offered for sale, has the property of resisting frost; the bulb will remain nearly invisible, and if sown on a level, or dipping to the south, the crop will be in good preservation when winter is passed. This turnep is recommended to persons with large stocks, as it has all the good qualities of turneps generally, and besides has the exclusive property of resisting frost. It is advisable that the experiment be made by farmers generally, if even limited to a bed in the garden. It is best to be sown in drills on the level—that is, to not raise the drills above the surface—the plants to be about 8 inches apart, the drills two feet; some persons to guard against a winter often changing from thaw to frost, throw with the plough a ridge on the north side of the drill, not very high—it proves as a conductor for the cold to pass off as the sun acts on the turnep, which it does more rapidly than the solid mass of earth of the field in which the plants are growing. In the spring, the turneps will be found sound and fresh.

Baltimore, 22d of June, 1834.

Ploughing Match.

A novel agricultural feat was performed in Rhode Island a few days since. It was a ploughing match, or trial of skill in the use of the plough, among fifteen competitors. The projector engaged 15 ploughs with the teams to plough fifteen acres "of green sward," paying each a fair compensation, and offering a premium for the best performance, according to certain specified rules. A committee was appointed to superintend the performance and examine the work. The trial employed sixty head of cattle, and was completed in from six to eight hours. It must have been a pleasant and exhilerating spectacle. Of such sports we have too few in this country. The desire for excitement unfortunately takes, in most cases, a more pernicious direction. It would be a national benefit if it could be converted into such innocent and profitable channels. The revival of a taste for these rural competitions, would do much to soothe the acrimony of mere party squabbles, towards which thirst for occupations and excitement now leads, make the use of ardent spirit a less general resort, and relieve the tedium of too much leisure by the stimulus of rational amusement.—*Baltimore American.*

Family Receipts.

Tomatoes Preserve.—*Mr. Editor*—The tomato is favorably mentioned in your last number: it is a valuable vegetable. But I do not recollect, that in the variety of uses to which it has been applied, your paper assigns it any place among the different species of preserves. As we are deprived this season of that pride of the fruit of Georgia, *the peach*, it may be of service to housekeepers to know that the tomato forms a most admirable substitute for the peach as a preserve. The flavor is almost precisely the same—it looks as well, and is altogether an excellent article for the tea table.

Directions.—Take good ripe tomatoes—peel them and preserve them with good brown or loaf sugar. If not peeled they burst, and do not retain the consistency so much desired by housekeepers, though they are very good without peeling. I give you this, at this time, that the industry of the fair hands about your flourishing town, may profit by it, before *Jack Frost* shall cut off their hopes from this new source of table ornament and luxury.—*Southern Planter.*

To Restore Tainted Beef.—"I observed it tainted, and so much so as to smell quite offensive. The beef being very fat and fine, I was loth to throw it away. I made the following experiment: I procured a half bushel of charcoal, and after taking out the beef and throwing away the offensive pickle, I re-packed it in a barrel, laying the pieces of charcoal between the pieces; and making a new pickle, adding a little saltpeter. I covered the beef, and in about six days found it as sweet and good as when it was first put up."—*Southern Agr.*

Jelly from Apples.—Dr. Thatcher in his American Orchardist, gives the following:

It is not known perhaps so generally as it ought to be, that apples make an excellent jelly. The process is as follows. They are pared, quartered, and the core completely removed, and put into a pot *without* water, closely covered, and put in an oven or over a fire. When pretty well stewed, the juice is to be squeezed out through a cloth, to which a little white of an egg is added, and then the sugar. Skim it previous to boiling; then reduce it to a proper consistency, and an excellent jelly will be the product.

White maple bark makes a good light brown slate color. This should be boiled in water, set with alum. The color is reckoned better when boiled in brass instead of iron.

The purple paper, which comes on loaf sugar, boiled in cider, or vinegar, with a small bit of alum, makes a fine purple slate color. Done in iron.

Science of Agriculture.

PULVERIZATION.

The mechanical division of the parts of soils is a very obvious improvement, and applicable to all in proportion to their adhesive texture. Even a free siliceous soil will, if left untouched, become too compact for the proper admission of air, rain and heat, and for the free growth of the fibres; and strong upland clays, not submitted to the plough or spade, will, in a few years, be found in the possession of fibrous rooted perennial grasses, which form a clothing on their surface, or strong tap rooted trees, as the oak, which force their way through the interior of the mass. Annuals and ramentaceous-rooted herbaceous plants cannot penetrate into such a soil.

The first object of pulverization is to give scope to the roots of vegetables, for without roots no plant will become vigorous, whatever may be the richness of the soil in which it is placed. The fibres of the roots take up the extract of the soil by introsusception. The quantity taken up, therefore, will not depend alone on the quantity in the soil, but on the number of absorbing fibres. The more the soil is pulverized, the more the fibres are increased, the more extract is absorbed, and the more vigorous does the plant become. Pulverization, therefore, is not only advantageous previous to planting and sowing, but also during the progress of vegetation, when applied in the intervals between the plants.

[Hence the utility of using the harrow and cultivator, in rowed crops, as corn, potatoes, ruta baga, &c. even when there is no weeds to be destroyed, or hilling required,---and hence the utility of using the harrow, in spring, upon winter grain.]

Pulverization increases the capillary attraction, or spongelike properties of soils, by which their humidity is rendered more uniform. It is evident this capillary attraction must be greater where the particles of the earth are finely divided; for gravels and sands hardly retain water at all, while clays not opened by pulverization or other means, either do not absorb water, or when, by long action it is absorbed, they retain too much. Water is not only necessary to the growth of plants, as such, but it is essential to the production of extract from vegetable matters, which they contain; and, unless the soil, by pulverization or otherwise, is so constituted as to retain the quantity of water requisite to produce this extract, the addition of manures will be in vain. Manure is useless in vegetation till it becomes soluble in water, and it would remain useless in a state of solution, if it so abounded as wholly to exclude air, for then the fibres or mouths, unable to perform their functions, would soon decay and rot off. Pulverization in a warm season is of great advantage in admitting the nightly dews to the roots of plants. Chaptal relates the great benefit he found in the practice in this respect to his corn crops; and shows of what importance it is in the culture of vineyards in France.

The temperature of a soil is greatly promoted by pulverization.—Earths, Grisenthwaite observes, are also among the worst conductors of heat with which we are acquainted, and consequently it would be a considerable time before the gradually increasing temperature of spring could communicate its genial warmth to the roots of vegetables, if their lower strata were not heated by some other means. To remove this defect, which always belongs to a close compact soil, it is necessary to have the land open, that there may be a free ingress of the warm air and tepid rains of spring.

Pulverization contributes to the increase of vegetable food.—Water is known to be a condenser and solvent of carbonic acid gas, which, when the lands are open can be immediately carried to the roots of vegetables, and contribute to their growth; but if the land is close, and the water lies on or near the surface, then the carbonic acid gas, which always exists in the atmosphere, and is carried down by the rains, will soon be dissipated. An open soil is also most suitable for effecting those changes in the manure itself, which are equally necessary to the preparation of such food. Animal and vegetable substances, exposed to the alternate action of heat, moisture, light and air, undergo spontaneous decomposition, which would not otherwise take place.

By means of pulverization a portion of atomspheric air is buried in the soil. This air, so confined, is decomposed by the water retained in the earthy matters. Ammonia is formed by means of the hydrogen of the water with the nitrogen of the atmosphere; and nitre by the union of oxygen and nitrogen; the oxygen may also unite with the carbon contained in the soil, and form carbonic acid gas, and carburetted hydrogen. Heat is given out during the process, and hence, as Darwin remarks, the great propriety of cropping lands immediately after they have been comminuted and turned over; and this the more especially, if manure has been loose, and the interstices filled with air, than afterwards, when it becomes compressed with its own gravity, and relaxing influence of rains, and the repletion of the partial vacuums formed by the decomposition of the enclosed air. The advantage of the heat thus obtained in exciting vegetation, whether in a seed or root, especially in spring, when the soil is cold, must be very beneficial.

The depth of pulverization, Sir H. Davy observes, must depend upon the nature of the soil and subsoil. In rich clayey soils it can scarcely be too deep; and even in sands, unless the subsoil contains some principles noxious to vegetables, deep comminution should be practiced. When the roots are deep, they are less liable to be injured either by excessive rain or drouth; the radicles are shot forth into every part of the soil; and the space from which this nourishment is derived, is more considerable than when the seed is superficially inserted in the soil.

Pulverization should, in all cases, be accompanied by the admixture of the parts of soils, by turning them over. It is difficult, indeed, to pulverize without effecting this end, at least by the implements in common use; but if it could be effected it would be injurious, because the difference of gravity between the organized matters and the earths has a constant tendency to separate them, and stirring a soil only by forks and pronged implements, such as cultivators, would, in a short time, leave the surface of the soil too light and spongy, and the lower part too compact and earthy. —*En. Ag.*

OF THE FERMENTING, PRESERVING, AND APPLYING OF MANURES OF ANIMAL AND VEGETABLE ORIGIN.

On the management of organic manures depends much of their value as food to plants. The great mass of manures procured by the cultivator are a mixture of animal and vegetable matters, and the great source of supply is the farm or stable yard Here the excrementitious matter of horses, cattle, swine and poultry, is mixed with straw, haulm, chaff, and various kinds of litter. To what degree should this be fermented before it is applied to the soil? And how can it best be preserved when not immediately wanted?

A slight incipient fermentation is undoubtedly of use in the dunghill; for, by means of it, a disposition is brought on in the woody fibre to decay and dissolve, when it is carried to the land, or ploughed in the soil; and woody fibre is always in great excess in the refuse of the farm. Too great a degree of fermentation is, however, very prejudicial to the composite manure in the dung hill: it is better that there should be no fermentation at all before the manure is used, than that it should be carried too far. The excess of fermentation tends to the destruction and dissipation of the most useful part of the manure; and the ultimate results of this process are like those of combustion. It is a common practice amongst farmers to suffer the farm yard dung to ferment till the fibrous texture of the vegetable matter is entirely broken down; and till the manure becomes perfectly cold, and so soft as to be easily cut by the spape. Independent of the general theoretical views unfavorable to this practice, founded upon the nature and composition of vegetable substances, there are many arguments and facts which show that it is prejudicial to the interests of the farmer.

During *the violent fermentation* which is necessary for reducing farm yard manure to the state in which it is called short muck, not only a large quantity of fluid, but likewise of gaseous matter is lost; so much so that the dung is reduced one half, or two thirds, in weight; and the principal elastic matter disengaged, is carbonic acid with some ammonia; and both these, if retained by the moisture in the soil, as has been stated before, are capable of becoming a useful nourishment of plants. In October, 1808, Sir H. Davy filled a large retort capable of containing three pints of water, with some hot fermenting manure, consisting principally of the litter and dung of cattle; he adapted a small receiver to the retort, and connected the whole with a mercurial pneumatic apparatus, so as to collect the condensible and elastic fluids which might rise from the dung. The receiver soon became lined with dew, and drops began in a few hours to trickle down the sides of it. Elastic fluid was likewise generated; in three days thirty-five cubic inches had been formed, which, when analyzed, were found to contain twenty-one cubic inches of carbonic acid; the remainder was hydrocarbonate mixed with some azote, probably no more than existed in the common air in the receiver. The fluid matter collected in the receiver at the same time amounted to nearly half an ounce. It had a saline taste, and a disagreeable smell, and contained some acetate and carbonate of ammonia. Finding such products given off from fermenting litter, he introduced the beak of another retort, filled with similar dung, very hot at the time, in the soil amongst the roots of some grass in the border of a garden; in less than a week a very distinct effect was produced on the grass; upon the spot exposed to the influence of the matter disengaged in fermentation, it grew with much more luxuriance than the grass in any other part of the garden. Besides the dissipation of gaseous matter, when fermentation is pushed to the extreme, there is another disadvantage in the loss of heat, which if excited in the soil, is useful in promoting the germination of the seed, and in assisting the plant in the first stage of its growth, when it is most feeble and most liable to disease; and the fermentation of manure in the soil must be particularly favorable to the wheat crop, in preserving a genial temperature beneath the surface late in autumn and during the winter. A-

gain, it is a general principle in chemistry, that in all cases of decomposition, substances combine much more readily at the moment of their disengagement, than after they have been perfectly formed. And in fermentation beneath the soil the fluid matter produced is applied instantly, even whilst it is warm, to the organs of the plant, and consequently is more likely to be efficient, than in manure that has gone through the process, and of which all the principles have entered into new combinations.

Checking fermentation by covering.—"There are reasons sufficiently strong," Grisenthwaite observes, "to discourage the practice of allowing dung heaps to ferment and rot without interruption. It appears that public opinion has slowly adopted the decisions of chemical reasoning, and *dung pies* as they are called, have been formed with a view to save what was before lost: a stratum of mold, sustaining the heap. being placed to receive the fluid parts, and a covering of mold being applied to prevent the dissipation of the aerial, or gaseous products. These purposes and contrivances, unfortunately, like many of the other operations of husbandry, were not directed by scientific knowledge. To cover is so commonly believed to confine, that there is no wonder that the practical cultivator adopted it in this instance from such a consideration. But it is in vain; the elasticity of the gases generated is such as no covering whatever could possibly confine. If it were perfectly compact, it could only preserve as much carbonic acid as is equal to the volume or bulk of air within it; a quantity too inconsiderable to be regarded, could it even be saved; but every particle of it must be disengaged, and lost, when the covering is removed."

Checking fermentation by watering is sometimes recommended; but this practice is inconsistent with just chemical views. It may cool the dung for a short time; but moisture, as before stated, is a principal agent in all processes of decomposition. Dry fibrous matter will never ferment. Water is as necessary as air to the process, and to supply it to fermenting dung, is to supply an agent which will hasten its decay. In all cases when dung is fermenting, there are simple tests by which the rapidity of the process, and consequently the injury done, may be discovered. If a thermometer plunged into the dung, does not rise to above one hundred degrees of Fahrenheit, there is little danger of much aeriform matter flying off. If the temperature is higher, the dung should be immediately spread abroad. When a piece of paper, moistened in muriatic acid, held over the steams arising from a dung-hill, gives dense fumes, it is a certain test that the decomposition is going too far, for this indicates that volatile alkali is disengaged.

In favor of the application of farm yard dung in a recent state, a great mass of facts may be found in the writings of scientific agriculturists. A. Young, in the *Essay on Manures*, already quoted, adduces a number of excellent authorities in support of the plan. Many, who doubted, have been lately convinced; and perhaps there is no subject of investigation in which there is such a union of theoretical and practical evidence Within the last seven years Coke has entirely given up the system formerly adopted on his farm, of applying fermented dung; and his crops have been since as good as they ever were, and his manure goes nearly twice as far. A great objection against slightly fermented dung is, that weeds spring up more luxuriantly where it is applied. If there are seeds carried out in the dung, they certainly will germinate; but it is seldom that this can be the case to any extent: and if the land is not cleansed of weeds, any kind of manure, fermented or unfermented, will occasion their rapid growth. If slightly fermented, farm yard dung is used as a top dressing for pastures, the long straws and unfermented vegetable matter remaining on the surface should be removed as soon as the grass begins to rise vigorously, by raking, and carried back to the dung hill: in this case no manure will be lost, and the husbandry will be at once clean and economical. In cases where farm yard dung cannot be immediately applied to the crops, the destructive fermentation of it should be prevented as much as possible; the principles on which this may be effected have been already alluded to. The surface should be defended as much as possible from the oxygen of the atmosphere; a compact marle, or a tenacious clay, offers the best protection against the air, and before the dung is covered over, or, as it were, sealed up, it should be dried as much as possible. If the dung is found at any time to heat strongly, it should be turned over and cooled by exposure to the air.

The doctrine of *the proper application* of manures from organized substances, offers an illustration of an important part of the economy of nature, and of the happy order in which it is arranged. The death and decay of animal substances tend to resolve organized forms into chemical constituents; and the pernicious effluvia disengaged in the process seem to point out the propriety of burying them in the soil, where they are fitted to become the food of vegetables. The fermentation and putrefaction of organized substances in the free atmosphere are noxious processes, beneath the surface of the ground they are salutary operations. In this case the food of plants is prepared where it can be used; and that which would offend the senses and injure the health, if exposed, is converted by gradual process into forms of beauty and usefulness; the fœtid gas is rendered a constituent of the aroma of the flower, and what might be poison becomes nourishment to animals and to man.

To preserve dung for any time, the situation in which it is kept is of importance. It should, if possible, be defended from the sun. To preserve it under sheds would be of great use; or to make the site of a dung hill on the north side of a wall. The floor on which the dung is heaped, should, if possible, be paved with flat stones; and there should be a little inclination from each side towards the center, in which there should be drains connected with a small well furnished with a pump, by which any fluid matter may be collected for the use of the land. It too often happens that a dense mucilaginous and extractive fluid is suffered to drain away from the dung hill, so as to be entirely lost to the farm.—*En. of Ag.*

From the Southern Agriculturist.

The Wild or Candleberry Myrtle,

A REMEDY AGAINST THE WEEVIL'S DEPREDATIONS.

Information on all and any subject, connected with agricultural pursuits, will, I presume, find admittance into your periodical, and although the notice may be of apparently small matters, yet to some one of your readers it may be new, and let me add valuable. I am induced to make these remarks from the inconvenience I suffered for many years, from the destruction of my corn by weevil, and the total absence of them now, in consequence of the application of a very simple remedy. The land which I plant in corn is low, and requires almost as much draining, as the river lands; but is productive, and yields abundant crops. Whether it is owing to the location of the land, or other (to me) unknown causes, I am unable to say, but the fact is, that the corn is often taken from the field with a great many weevil in it. No injury seemed to result from their residence in it, while in the field, or during the cold weather, but as soon as summer's sun had shed his genial warmth upon us, these intruders gave notice of their existence, by commencing the work of destruction. Upon several occasions my provisions were materially injured, and much complained of by the consumers—I tried a variety of remedies, without effect. Late planting, and early planting, were both suggested and tried; the land was all broken up deep in the winter, with a plough; the seed was coated with tar and soot, and finally was brought from one of the sea islands at a distance and planted. The crops, I think, were improved by each of the remedies in quantity, but the enemy still retained his position, unmoved, and apparently immovable. I was one day mentioning the circumstance to a friend, who told me that he had understood, that the wild myrtle(*Myrica cerifera,*) was a sovereign remedy for this seemingly incurable disease. At this time the destruction had commenced, and the insects were to be seen in every direction: a quantity of myrtle was procured, and spread over the top of the corn, and directions given to follow it up, if any effect was visible. My removal to town for the summer, prevented my attending to the business any farther, and I learned upon inquiry in the fall, that "it *seemed* to check the weevil in some degree." This was not satisfactory, and as the corn in the field was apparently more than usually infested, I determined to give the experiment a fair trial. The corn house was emptied, and swept, and washed with boiling water; the floor was then covered with myrtle, a layer of corn about a foot deep was then brought in, and then a layer of myrtle, and this management continued throughout the whole harvest, observing to cover the top of the corn with a bed of these little bushes. During the winter I several times examined the corn, near the door, and saw no weevil, yet I was fearful, that in the body of the house, the mischief might still be going on. Late in the spring we began to use the corn freely, and still found no weevil; the crop was eventually consumed, and was to the last entirely free from insects of all and every kind.

This was to me satisfactory, and the rule has been uniformly observed of strewing the house with myrtle, and no weevil has since been seen. My corn house is divided into two bins, and an entry; and this year I had planted a small field alone, and desired that it might be kept separate. Into this entry it was thrown, and no myrtle was put with it, but the two bins were as usual well supplied. Upon examining the corn house, I found the corn in the entry filled with weevil, while that in the bins was perfectly free from all insects. The corn was immediately removed, and though filled with insects, was divided between the two bins, and myrtle plentifully strewed over the top of each. I am now eating the corn, and the weevil are no where to be found.

This last *accidental* experiment is more convincing than either of the others; here the two bins were free from weevil, and the corn which was separated from them, only by a loose board partition, was filled, and I have little doubt, would have been unfit for use before the summer was over. Perhaps, Mr. Editor, in giving you and your readers the information detailed in this paper, I have been carrying "coals to Newcastle;" if so, light your spirit lamp with it, and I shall be satisfied, as my only object is to do good, and not to see myself in print. Z.

From the Farmer's Register.

Rye in the Grain as Food for

HORSES.

A friend, in whom I have every confidence, who is a gentleman of scientific acquirements, and a practical agriculturist, has just given me the following information, relative to horses' feed.

While traveling recently on one of the public roads, he fell in company with a farmer, from one of the northern counties of Virginia, and in the course of conversation the subject of feeding horses was mentioned; when the farmer observed, that for four years past he had pursued a new plan, greatly to his advantage, as well as to that of his horses. The new plan was that of feeding rye, in the grain, without grinding. He said, that after four years experience, he had become perfectly satisfied that less rye produced a better effect than if it were chopped or ground. After much difficulty, he had prevailed on some of his neighbors to try it; and thus, gradually, all the horse owners in the neighborhood had become converts, and now all feed rye in the grain; all agreeing that a large proportion of grain was saved by it, besides a marked difference in the condition of the horses for the better. He said, he could not give the "why and because;" it was different from the universal prescription of science, and the almost universal practice of intelligent husbandmen; but that the fact was before him, and challenged his belief in such a way, that to have continued incredulous, would have been to shut his eyes against the most palpable demonstration. The

best of this is, that an experiment is easily made, and, even if unsuccessful, cannot result in material loss. But should it be true, that rye in the grain is better, or even as good as when ground, a considerable saving would result to the farmer, in avoiding the trouble and expense of going to mill. The farmer stated, that he had observed grains of rye passing off in the dung, but that they seemed to have left their substance in the body of the horse. In this he is doubtless mistaken; but may not the *modus operandi* of this new diet be explained thus: The grain that escapes crushing by the teeth prevents the mass in the stomach from concreting into lumps, and thus permits the free action of the juices of the stomach upon the whole. Persons afflicted with dyspepsia swallow white mustard seed, with great advantage; but I believe it is not pretended that the mustard seed has any other action than a mechanical one—that of keeping the contents of the stomach from forming a dense mass; keeping the food light and penetrable, by the gastric juices, &c.

The anecdote was given to me in so earnest a manner, and by so respectable a gentleman, that I thought, as I was about writing to you, I would give it to you for insertion in the Farmers' Register.

Very respectfully,

GIDEON B. SMITH.

Convertible Husbandry.

In looking over a volume of the New England Farmer for 1823–4, we found the following communication from Judge BUEL, which we consider well worthy a re-publication. The editor of the N. E. Farmer introduces it with the following remarks:—"The following valuable communication will be highly and justly appreciated by the good sense of American Farmers. It will meet with more attention, and carry with it a *greater weight of authority* from the important circumstance that the writer has not given us the *speculations of theory*, but the *realities of practice*. It is a plain unvarnished matter of fact relation of what a cultivator *has done*, the means, expenses and profits attending a particular mode of husbandry, and certain rotations of crops in a light sandy loam."

Estimate of the espense and profits of cultivating an acre of sand loam under two different courses of crops.

EXPENSE—FOUR YEARS COURSE.

First Year.

30 loads of long manure, 30 bushels each, at 75 cents,	$22 50
A man one day spreading the same,	50
Ploughing $1, rolling or harrowing 25 cts.	1 25
2 days planting,	1 00
2 do. harrowing and weeding $1, boy and horse 25 cts.	1 25
2 days ploughing and earthing or hilling,	1 00
3 do. cutting and binding,	1 50
2 men 1 day carting off and stooking,	1 50
4 days husking and cribbing 80 bush. corn,	2 00
1 day housing stalks,	50
6 quarts seed 12 cts. 1 bush. gypsum 50 cts.	62
	$33 62
Boy and team half a day harrowing stock ground,	50
Ploughing do	1 00
Sowing wheat and harrowing in,	62
5 pecks seed at $1 25,	1 56

Second Year.

2 days cutting and binding wheat,	1 00
2 men half a day drawing in do. to barn,	75
Threshing 25 bushels at 6 cts. per bushel,	1 56
	$6 99
Ploughing and harrowing stubble,	1 25
1 lb. turnep seed and sowing, 88 cents, harrowing in do. 25 cts.	1 13
10 loads manure and spreading same,	7 66
4 days hoeing and thinning turneps,	2 00
6 do. pulling and topping,	3 00
	$15 03

Third Year.

1 day ploughing,	1 00
1½ bushels seed barley,	1 00
10 lbs. clover seed at 10 cts.	1 00
Sowing barley and seeds, half a day,	25
Harrowing both ways	50
Harvesting barley, $1, drawing in 75 cts.	1 75
Threshing 30 bushels at 4 cts.	1 20
	$6 70

Fourth Year.

2 days cutting one acre clover,	1 00
4 do. making hay and carting in,	2 00
	$3 00
Rent at $5 per annum,	20 00
Total expense in 4 years,	$85 35

PRODUCE.

70 bushels sound corn, at 50 cts.	$35 00
10 bushels soft do. at 25 cts.	2 50
4 loads stalks, at $2 50,	10 00
	$57 50
25 bushels wheat at $1 25,	31 25
2 loads of straw at $2 50,	5 00
200 bushels turneps, at 18 cts.	37 50
	$73 75
30 do. barley, at 62½ cts.	18 75
2 loads straw, at $2 50,	5 00
	$23 75
3 tons hay, at $12 50,	37 50
Feed of aftermath,	3 00
	$40 50
Total value of products,	$195 50
Deduct expenses,	85 35
Profit,	$110 15

or $36 66 per annum.

FIVE YEARS COURSE.

First Year.

Indian corn, as above,	$33 62

Second Year.

Wheat,	6 99
10 lbs. clover seed and sowing,	1 13
	$8 12

Third Year.

Hay, as above,	3 00
10 loads manure to be spread on lay,	7 66
1 ploughing and 2 harrowings,	1 50
1 lb. ruta baga seed,	62
Drilling in same,	37
1 weeding, four days,	2 00
1 dressing with cultivator or plough,	25
4 days pulling and topping,	2 00
	$17 41

Fourth Year.

Barley, as above,	6 70

Fifth Year.

Clover, as before,	3 00
	$68 85
Rent 5 years, at $5,	25 00
Total expense,	$93 85

PRODUCE.

1st year, corn, as before,	$57 50
2d year, wheat, do.	35 75
3d year, clover, do.	40 50
400 bushels ruta baga, at 12½ cts.	50 00
	$90 50
4th year, barley,	23 75
5th year, clover,	40 50
Produce in five years,	$248 00
Deduct expense and rent,	93 85
Profit,	$154 54

or $30 83 per annum.

I have omitted to charge for threshing corn and pitting ruta baga, and to credit for turnep and ruta baga tops, which may offset against each other. Two bushels of gypsum should also be charged, which is sown upon the two clover crops in the five year course.

It may be well to remark, that potatoes are embraced with Indian corn, in the first year of each course; and that so far as the demand will warrant their culture, they are more profitable, and less exhausting, than corn.

The above estimates are predicated upon my own practice for the last five years, and are as accurate as my memorandums and memory will enable me to make them, except in regard to the price of labor, which is perhaps too low, though it corresponds with average prices.

The propriety of appropriating light loams and sands to convertible husbandry, that is to a succession of grain, grass and root crops, is apparent from several considerations. Such soils will seldom give more than two good crops of grass, or grain, in succession, without expensive manuring or top dressing. Hence they are not profitable for permanent grass or tillage. But under good management, and a judicious rotation of crops, they may be made to improve in quality, and to excel in profit: because they can be managed with half the expense in labor that is appropriated to stiff and adhesive soils under tillage. The history of Norfolk husbandry, affords a demonstration of these truths. Flanders exhibits a yet more striking evidence of their correctness. These two districts, which are mostly composed of sands and light loams, surpass all others in neat and profitable husbandry. In both, a rotation of crops is the basis of improvement. In both summer fallows are nearly abolished; and only resorted to to cleanse a foul soil. In Norfolk, it is a general rule, never to take two white crops (such as wheat, rye, barley or oats) in succession;* while the Flemings are equally scrupulous in the observance of the maxim which enjoins that no field shall lay more than ten days without a crop.† A late traveler remarks, that he saw in a large field, in Flanders grain harvested, and the stubble ploughed and sown with turneps the same day.

I will subjoin a few observations on each of the crops embraced in my system of rotation. And

1. *Indian Corn.* This not only gives more food to man, and to beast, than any other grain, but it gives more to the soil, in the form of manure, where the stalks are fed in a well constructed yard, as they ever should be. It is less exhausting than other grain; first, because of its broad and expansive system of leaves, which draw largely upon the atmosphere for food; and second, because, under my method of culture, it is cut before the leaves cease to perform this office, and consequently before the grain depends for its nutriment wholly upon the soil. It is peculiarly adapted to a loose, warm soil. Although a profitable drop, on such a soil, when well fed and cleaned, it returns little or no profit from one that is poor, wet or stiff, I make it the basis of my course. It answers all the purposes of a naked summer fallow, in cleaning the ground, and decomposing the sod. Although clay may require to be summer fallowed, for the further purpose of pulverizing, a fallow crop, and that a hoed crop, I believe every reflecting man will admit, answers every beneficial purpose on light loams and sands. I spread my manure, and plough about the first of May. I prefer this time, because the clover has then acquired a good growth,—and, turned under with the manure, affords an excellent bed for the roots of the grain, with ample room to range, and abundance of food to nourish. I then, either with the roller or harrow close the interstices between the furrows, to prevent the escape of the gasses, and to cover the manure from the exhausting influence of the sun and winds. The decay of the roots soon renders the ground permeable to heat, light, air and moi-

*Young.

†Radcliff's Flemish Husbandry.

ture, which all contribute to promote vegetation. The seed is then planted in hills, at the distance of 30 inches each way. I pass a harrow, at the first dressing, both ways, and with the hoe do little more than destroy the weeds and grass. At the second and last dressing, I plough shallow, and earth or hill slightly, taking care not to disturb the roots, or to bring the manure to the surface. As soon as the grain is glazed, which has been invariably the first week in September with me, I cut the crop at the surface of the ground, with a hemp hook, laying four hills in the bundle, bind above the ears immediately, take it off the field on sleds, and stook it near my barn—and husk it when convenient. By this course I save labor, double the value of the fodder, and clear my ground in time for wheat. The stooks will not injure if put up wet, the ears keeping the stooks open to the air. The gypsum is sown before the ground is ploughed. All other things alike. I think the clover lay increases the crop from 25 to 30 per cent. and tends to counteract the effects of drouth.

2. *Wheat.* The requisites for a wheat crop, are a clear, mellow and rich tilth. If either of these are wanting, or the soil be very porous or sandy, rye should be substituted. If long manure is applied directly to this crop, it introduces weeds and grass; and although the straw may be luxuriant, the grain is often light and shrivelled. If suffered to ferment in the yard, the manure loses nearly half its value in the process. But applied to corn and potatoes in the spring, it enriches these crops by its grosser and more volatile particles, loses its noxious seeds, undergoes fermentation, and becomes by the preparation for the wheat crop, intimately mixed and incorporated with the soil. I harrow down the crowns of the corn hills with a heavy harrow, plough, sow and harrow the seed by passing the harrow both ways.

I think you have remarked, that wheat will not grow in old soils which do not contain lime. I do not doubt but calcareous matter is essential in a good wheat soil. In Europe, it is applied to a great extent, in the form of lime, marl and chalk; and I trust we shall soon become familiar with the use of the two former. It cannot be too often mentioned that clay marls generally abound in sand districts, at no great depth, as if to incite the research and industry of man; and that they constitute the best dressing for the soils which cover them.

3. *Turneps.* These constitute an excellent preparatory crop to barley, as they leave the ground clean and mellow. But how is the crop to be consumed, it will be asked. If near a populous town or village, they will find a ready sale. If not, they may be fed on the ground during all October, November, and part of December, to sheep and cattle. And, lastly, they may be buried in pits, like the Swedish turnep, and fed in the spring, when stock are much in want of succulent food. All I raise are taken to market from the field. The best crops which I have ever seen, were taken upon wheat and rye stubbles. Sandy loams are the best turnep soils.

4. *Barley* grows best on sand loams; and on those is more productive and profitable than oats or rye; and the demand for it is likely to increase with the multiplication of our breweries. It is recommended to roll the crop when three or four inches high. The operation induces the plants to throw up additional shoots, and facilitates the growth of the young grasses.

5. *Clover.* Upon this head I have nothing to say, except to reiterate your recommendation from Anderson, that when made into hay, clover should not be spread from the swath, and but slightly from the cock. It is worth 30 per cent. more, when dried in swath and small cocks, than when spread to an intense sun. If intended to stand more than one year, I sow orchard, tall oat, or timothy grass seed with clover. I prefer the two former on account of their early maturity for the scythe.

6. *Ruta Baga.* The value of this plant has lately been subjected to so full a discussion, that I will barely remark, that I have grown it five years, and am confirmed in the utility of its culture.

Without investigating the physiology of plants, it is enough for the present to observe, that they are furnished with different systems of roots, through which the plants are principally supplied with nourishment; that some of these search for food near the surface, and that others penetrate for it deep in the soil; that some render the soil hard and compact—others loose and friable;—that some plants exhaust the soil, while others fertilize it; and that the object of a rotation is, to make such a selection from different classes, as shall produce the greatest profit to the cultivator, without impoverishing his soil. How far the course I have adopted is calculated to attain this end, I leave for the public to determine.

J. BUEL.

Heath Apple.—Mr. Paine Wingate, of Hallowell, presented us with an apple of this kind on the 3d ult. which was as fair, sound and pleasant, as if just taken from the tree. This apple is of a large size and has a pleasant, sweet flavor, and Mr. Wingate says is superior as a baking apple, and for making apple sauce, or jelly. He also considers it a valuable variety to cultivate for hogs, not only because the tree is a good bearer, and swine like the taste of them, but because they will also keep so long and so well. The fruit originated in New Hampshire. We have not a great many kinds of sweet apples which will keep so late, and these on that account are a valuable variety. Mr. Wingate will furnish grafts or buds, for setting or innoculating, to any who apply.—*Maine Farmer.*

Shoe Blacking.—Perhaps the best in the world is Elder Berries. Mash the berries with your hand in a large kettle of water; set them in the shade a few days, until they ferment: then boiling it a half day, filling it up with water. After it is cool, strain and wring them thro' a course cloth and then boil it down to the thickness of molasses. Put a small quantity with a feather on the brush; rub the shoe till there is a fine gloss. The same will make good writing ink.

Circular.

To the Trustees of Common Schools in Monroe co. and to Teachers generally:

The Principal of the Rochester Seminary, and the gentleman associated with him, have made arrangements to impart a systematical course of instruction to those who wish to qualify themselves for Instructors in the best order of common schools. Besides the general course of instruction adapted to those who are to educate others, teachers will form a separate class, and lectures, conversations, demonstrations, and appropriate exercises will be employed, to impart practical knowledge of the best methods of classing, governing and instructing schools. The selection of books, and the mode of supplying their defects, are important considerations, which will receive attention.

This class will be formed at the commencement of the term, Sept. 8th, and at the close of the first quarter be examined and receive testimonials of their qualifications.

The tuition for all qualified to receive testimonials will be $7. Trustees of school districts wishing to procure well qualified instructors, may receive aid from the Principal by furnishing him with a statement of the condition of their schools.

GILBERT MORGAN, Principal.

Rochester, Aug. 18, 1834.

The undersigned have great confidence in the learning and zeal of the gentlemen pledged to the above enterprise. We believe the project worthy of a thorough trial, and would therefore invite all the districts in our county not well supplied, and young gentlemen and ladies who wish to qualify themselves for instructors, to secure the advantages now offered.

W W. REID,
E. B. STRONG,
VINCENT MATHEWS,
ASHLEY SAMSON,
O. HASTINGS,
M. CHAPIN.

PRICES CURRENT.

ARTICLES.	PER	Aug. 30. ROCHESTER.	Aug 25. NEW-YORK.
Ashes—Pot....	100lbs.	$3,25.....	$0,00 a 4,00
—— Pearl..	.....	3,50.....	0,00 a 4,40
Beeswax, yellow	lb.	0,16 a 0,18	21 a 22
Candles, mould	.....	0,10 a 0,11	13. a 14
—— dipped.	.....	0,09 a 0,10	11 a 12
Cloverseed.....	.....	6¼..... ...	6 .a. 6¼
Flax, American.	.....	.....	7½..a.00
Flax seed, clean	tierce	9,00a10,00	00,00 a0,00
Flour, Western.	barrel	4,50.....	5,56a 5,62
Grain, Wheat..	bushel	0,85a0,87½	0,00 a0,00
—— Rye....	.....	0,62.....	63.a..65
—— Oats...	.....	0,25.a..27	40.a..00
—— Corn...	.....	0,44.....	69.a..70
—— Barley..	.....	0,00.a..00	00.a..00
Hemp, Americ'n	ton	.....	100 a 125
Hops, 1st sort .	lb.	.....	15.a..17
Plaster Paris...	ton	6,00 a 0,00	2,00 a2,25
Beef, Mess....	barrel	0,00 a10,00	9,12 a9,75
—— Prime....	.....	0,00 a 8,00	5,75 a 6,00
Pork, Mess....	.....	14,00a15,00	13,25a14,00
—— Prime....	.....	11,00	9,00a10,00
—— in the hog.	100lbs.	4,00.....	....
Tallow.....	.....	7,50 a 8,00	6,50 a 6,75
Hay.....	ton	7,00 a 0,00	9,00a11,20
Apples.....	bushel	50.a.100	.....

Seed Wheat.

THE subscriber having taken great pains to procure the most approved varieties of Wheat, and having been very particular to have his fields cleared of foul seed by weeding, and by means of a seed screen will separate all the light or imperfect grain, leaving only the full grown and perfect berry, warranted entirely free from smut, offers to the farming public about 1000 bushels of his own raising, consisting of the following varieties, viz:

Indiana, white berry,
White Flint, do. do.
Mud, do. do. a species of White Flint, thrashes easy and endures the winter remarkably.
Beaver Dam, red berry, does well on light land.
White bearded, do. succeeds well sown late, after corn.

The subscriber will furnish the above kinds, delivered at any Port on Lake Ontario, or at any place on the canal, according to order, (bags or barrels furnished if requested,) subject to cost and charges.

N. B. Any other kinds of Wheat produced in this country, will be furnished if requested.

G. H. HOLDEN.

Charlotte, Aug. 20, 1834. aug 22

ELECTION NOTICE.

Sheriff's Office, Rochester, August 14, 1834.

A GENERAL Election is to be held in the county of Monroe on the 3d, 4th, and 5th days of November next, at which will be chosen the officers mentioned in the notice from the Secratary of State, of which a copy is annexed.

E. M. PARSONS, Sheriff
of the county of Monroe.

State of New-York, Secretary's Ofeice,
Albany, Aug. 1, 1834.

Sir—I hereby give notice that at the next General Election, which is to be held on the 3d, 4th and 5th days of November next, a Governor and Lieutenant Governor are to be elected.

Notice is also given that two Senators are to be chosen in the Eighth Senate District, one in place of Trumbull Cary, whose term of service will expire on the last day of December next, and the other in the place of John Birdsall, resigned, whose term of service will expire on the last day of December, 1835.

JOHN A. DIX,
Secretary of State.

To the Sheriff of the county of Monroe.

N. B.—The Inspectors of Election in the several towns in your county will give notice of the election of a Representative to Congress from the Twenty-eighth Congressional District; also for the choice of Members of Assembly, and for filling any vacancies in County offices that may exist.

☞ All public newspapers in this county will publish the above, and send their bills to the Sheriff the county. aug 16

Youth and Age.

BY SOUTHEY.

With cheerful step the traveler
Pursues his early way,
When first the dimly-dawning east
Reveals the rising day.

He bounds along his craggy road,
He hastens up the hight,
And all he sees and all he hears
Administers delight.

And if the mist, retiring slow,
Roll round its wavy white,
He thinks the morning vapors hide
Some beauty from his sight.

But when behind the western clouds
Departs the fading day,
How wearily the traveler
Pursues his evening way!

Sorely along the craggy road
His painful footsteps creep,
And slow, with many a feeble pause,
He labors up the steep.

And if the mists of night close round
They fill his soul with fear,
He dreads some unseen precipice,
Some hidden danger near.

So cheerfully does youth begin,
Life's pleasant morning stage;
Alas! the evening traveler feels
The fears of weary age.

From Dr. Percival's Moral and Literary Dissertations.

The Advantages of a Taste for

THE BEAUTIES OF NATURE.

That sensibility to beauty, which, when cultivated and improved, we term taste, is universally diffused through the human species; and it is most uniform with respect to those objects, which, being out of our power, are not liable to variation, from accident, caprice, or fashion. The verdant lawn, the shady grove, the variegated landscape, the boundless ocean, and the starry firmament, are contemplated with pleasure by every attentive beholder. But the emotions of different spectators, though similar in kind, differ widely in degree; and to relish with full delight, the enchanting scenes of nature, the mind must be uncorrupted by avarice, sensuality, or ambition; quick in her sensibilities; elevated in her sentiments; and devout in her affections. He who possesses such exalted powers of perception and enjoyment, may almost say with the poet—

"I care not, Fortune, what you me deny;
You cannot rob me of free Nature's grace;
You cannot shut the windows of the sky,
Through which Aurora shows her brightening face;
You cannot bar my constant feet to trace
The woods and lawns, by living streams, at eve:
Let health my nerves and finer fibres brace,
And I their toys to the great children leave:
Of fancy, reason, virtue, nought can me bereave!"

Perhaps such ardent enthusiasm may not be compatible with the necessary toils and active offices which Providence has assigned to the generality of men. But there are none to whom some portion of it may not prove advantageous; and if it were cherished by each individual in that degree which is consistent with the indispensable duties of his station, the felicity of human life would be considerably augmented. From this source the refined and vivid pleasures of the imagination are almost entirely derived; and the elegant arts owe their choicest beauties to a taste for the contemplation of nature. Painting and sculpture are express imitations of visible objects; and where would be the charms of poetry, if divested of the imagery and embellishments which she borrows from rural scenes? Painters, statuaries, and poets therefore, are always ambitious to acknowledge themselves the pupils of nature; and, as their skill increases, they grow more and more delighted with every view of the animal and vegetable world. But the pleasure resulting from admiration is transient; and to cultivate taste without regard to its influence on the passions and affections, "is to rear a tree for its blossoms which is capable of yielding the richest and most valuable fruit." Physical and moral beauty bear so intimate a relation to each other, that they may be considered as different gradations in the scale of excellence; and the knowledge and relish of the former should be deemed only a step to the nobler and more permanent enjoyments of the latter.

Whoever has visited the Leasowes, in Warwickshire, must have felt the force and propriety of an inscription which meets the eye at an entrance into these delightful grounds:—

"Would you, then, taste the tranquil scene?
Be sure your bosom be serene;
Devoid of hate, devoid of strife,
Devoid of all that poisons life;
And much it 'vails you, in this place
To graft the love of human race."

Now, such scenes contribute powerfully to inspire that serenity which is necessary to enjoy and heighten their beauties. By a sweet contagion the soul catches the harmony which she contemplates; and the frame within assimilates itself to that which is without. For

"——Who can forbear to smile with nature?
Can the strong passions in the bosom roll
While every gale is peace, and every grove
Is melody?"

In this state of composure we become susceptible of virtuous impressions from almost every surrounding object; an equal and extensive benevolence is called forth into exertion; and having felt a common interest in the gratifications of inferior beings, we shall be no longer indifferent to their sufferings, or become wantonly instrumental in producing them.

It seems to be the intention of Providence that the lower order of animals should be subservient to the comfort, convenience, and sustenance of man. But his right of dominion extends no further; and if this right be exercised with mildness, humanity, and justice, the subjects of his power will be no less benefitted than himself; for various species of living creatures are annually multiplied by human art, improved in their perceptive powers by human culture, and plentifully fed by human industry The relation, therefore, is reciprocal between such animals and man; and he may supply his own wants by the use of their labor, the produce of their bodies, and even the sacrifice of their lives; whilst he co-operates with all-gracious heaven in promoting happiness, the great end of existence.

But though it be true that partial evil, with respect to different orders of sensitive beings, may be universal good, and that it is a wise and benevolent institution of nature, to make destruction itself, within certain limitations, the cause of an increase of life and enjoyment; yet a generous person will extend his compassionate regards to every individual that suffers for his sake; and whilst he sighs

"Even for the kid, or lamb, that pours its life
Beneath the bloody knife."

he will naturally be solicitous to mitigate pain, both in duration and degree, by the gentlest mode of inflicting it.

I am inclined to believe, however, that this sense of humanity would soon be obliterated, and that the heart would grow callous to every soft impression, were it not for the benignant influence of the smiling face of nature. The Count de Lauzun, when imprisoned by Louis XIV. in the Castle of Pignerol, amused himself, during a long period of time, with catching flies, and delivering them to be devoured by a rapacious spider. Such an entertainment was equally singular and cruel, and inconsistent, I believe, with his former character and subsequent turn of mind. But his cell had no window, and received only a glimmering light from an aperture in the roof. In less unfavorble circumstances, may we not presume that instead of sporting with misery, he would have released the agonized flies, and bid them enjoy that freedom of which he himself was bereaved!

But the taste for natural beauty is subservient to higher purposes than those which have been enumerated; and the cultivation of it not only refines and humanizes, but dignifies and exalts the affections. It elevates them to the admiration and love of that Being who is the Author of all that is fair, sublime, and good in the creation. Scepticism and irreligion are hardly compatible with the sensibility of heart which arises from a just and lively relish of the wisdom, harmony, and order subsisting in the world around us; and emotions of piety must spring up spontaneously in the bosom that is in unison with all animated nature. Actuated by this divine inspiration, man finds a fane in every grove; and, glowing with devout fervor, he joins his song to the universal chorus, or muses the praise of the Almighty in more expressive silence. Thus they

"Whom nature's works can charm, with God himself
Hold converse; grow familiar, day by day,
With his conceptions; act upon his plan,
And form to his the relish of their souls."

THE BLACK MANGROVE OF THE WEST INDIES.—The black mangrove, which is called by botanists Rhizophora Mangle, is one of the most singular productions of the vegetable kingdom, in a mechanical point of view, inasmach as it seems designed by Providence, both as a barrier against the inroads of the sea, and as a breeding cage for innumerable shell-fish, particularly the mangrove oyster, described in a recent number of "The Athenæum." In this instance, nature herself forms props for supporting the branches; for the large boughs of the trees send out, in many places, soft lax threads or strings, which grow rapidly, and, hanging down, soon reach the mud, where they immediately divide, or split into roots; and, when these acquire sufficient strength, they nourish the shoots or strings, which, constantly acquiring, by this means size and firmness at last form trunks that prop and support the branches from which they originally protruded. The numerous props make the groves of this tree very entangled, and by detaining the mud and other substances brought down by floods, they in time cause the land to gain upon the sea, as is mentioned by Brown in his Jamaica.

Adversity.—The greatest object in the universe, says a certain philosopher, is a good man struggling with adversity; yet there is still a greater, which is the good man that comes to relieve it.

Time is so precious an article, that Providence gives it to us in the smallest possible portions, never yielding us two moments at once, but always taking away one when the other is bestowed.

Good Manners—is the art of contributing to the enjoyment of those with whom we have intercourse by putting them at ease and causing them to be pleased (not with you, but) with themselves.

Ill Manners—are the indications of pride, ill nature, and want of sense.—Without one of these defects no man will offend against good manners, merely from want of being accustomed to what is called genteel society

---

Dress.—He who has no other way to distinguish himself than by the fashion and materials of his dress, is a despicable creature, and unites the silliness of the goose with the pride of the peacock.

Be sensible to your own value, estimate the worth of others; and war not with those who are far above thee in fortune.